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Editorial

Effectiveness for the Response to COVID-19: The MERS Outbreak Containment Procedures

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On the 31st December 2019, there were 41 cases of pneumonia in Wuhan, China, reported to the WHO, where the origin of the virus was unknown. As of the 17th February 2020, a total of 71,432 (1,775 deaths) confirmed cases of Corona Virus Disease 19 (COVID-19) in 26 countries and reported to the WHO.

There have been 70,635 reported cases in China, and this has consequently affected countries which Chinese citizens frequently visit including Singapore (77 cases), Japan (59 cases), Thailand (35 cases), the South Korea (30 cases), and Malaysia (22 cases) [1]. Monitoring of international travelers in Japan have confirmed 454 cases of COVID-19 in infected patients [1].

This outbreak is reminiscent of 2 major infectious diseases which have affected the response by the public health system in the South Korea: Severe acute respiratory syndrome (SARS) and Middle East Respiratory Syndrome (MERS). Although the South Korea had no confirmed cases of SARS in 2004, a paradigm shift in dealing with national disease control occurred resulting in the launch of Korea Centers for Disease Control and Prevention (KCDC) [2].

MERS in 2015, had a deep impact in the KCDC, with 186 confirmed cases and 38 deaths, due to exposure to MERS from patients returning from travel abroad, and nosocomial infection. Consequently, the KCDC reformed the system for preparing and responding to infectious diseases caused by patients returning from travel abroad [3]. This has led to the establishment of the Emergency Operations Center. In the aftermath of the MERS outbreak, KCDC has strengthened its risk communication and risk assessment strategy by

introducing new divisions in the KCDC, and increasing the number of professional epidemiological investigators [3]. As a result, a MERS case where the patient had traveled abroad, was successfully contained with no further confirmed cases in 2018 [4].

In the current issue of Osong Public Health and Research Perspectives, 3 studies are presented dealing with COVID-19. A study by Kim et al, analyzed the genetic information of the COVID-19 virus isolated from a patient in South Korea. The virus was identified by real-time reverse transcriptase (RT) PCR followed by Next Generation Sequencing of the full-length of the genome [5].

In an interim report by the COVID-19 National Emergency Response Center of the KCDC, epidemiological and clinical characteristics of COVID-19 in 28 cases in South Korea were reported. There were 53.9% of cases who were males, with 16 cases in patients who had traveled abroad, of which 11 cases (39.3%) were from Wuhan, China, and 12 of the remaining cases were believed to have been infected in South Korea. The incubation period was 4.8 days. Most secondary infected cases were from family members outside the family home (66.7%) and within the family home (75%) [6].

In another study by the COVID-19 National Emergency Response Center of KCDC investigating the epidemiology of the cases, contact tracing which reflect the Korean consumers' habits was investigated. The authors described the methods that can objectively verify case claims (medical facility records, Global Positioning System, credit card transactions, and CCTV) to identify the contacts to complement the interviews regarding the cases [7]. Although the authors mentioned that

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the interim epidemiological results could be updated when data was available, the current epidemiological information is valuable in determining reporting criteria of COVID-19 in South Korea.

For optimizing future responses to new outbreaks of coronavirus and other infectious disease epidemics, effectiveness of the procedure in South Korea should be evaluated with comparison with the procedure from other countries.

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